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P A P E R S

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P O L I T E A R T S.



POLITE ARTS.

In the Sixteenth Volume of these Transactions, page 279, is inserted a DISSERTATION by Mr. TIMOTHY SHELDRAKE, on PAINTING IN OIL, in a manner similar to that practised in the ancient Venetian School. What now follows is a continuation of Mr. Sheldrake's Paper, and gives an account of the Process used to separate the Mucilage from Linseed Oil, &c. so as to fit them to serve as vehicles in that manner of Painting.

Account of the Process used to separate the Mucilage from Linseed Oil, &c.

I HAD read in some book, the title of which I do not recollect, that Linseed Oil might be *purified* by shaking it with water which would imbibe the impurities, and leave the oil more limpid. I tried this experiment by shaking linseed oil with warm
water,

water, and was surprised to find they did not separate, but remained united in the form of emulsion. I then boiled them together, and found their tendency to separate diminish: as it is the known property of gums or mucilage to keep oil and water united in this state, I was induced to suspect the presence of mucilage in linseed oil.

I had read in Doffie a method of preparing what he calls *fat oil*. It is effected by placing linseed oil in a shallow vessel exposed to the heat of the sun, and stirring it frequently: in a certain time it loses its property of drying, thickens, and acquires a degree of tenacity that makes it proper for a size or cement for gilders, &c. A similar substance is alluded to by Leonardo da Vinci.

Taking the existence of mucilage in this oil for granted, I conjectured that the alteration produced in its texture by Doffie's process, arose from the evaporation of some of its principles, and the more intimate
union

union of the rest in consequence of that evaporation: to verify this conjecture, I tried the following experiment.

I filled a half-pint phial full of linseed oil, corked and tied it securely over with a bladder. This I exposed to the heat of the sun in summer, during the whole day: after it had remained a few days in this situation, the upper part of the phial was covered with drops, similar to those produced by holding a wet bottle to dry before the fire. I then shook it well, which made the contents look muddy, and set it to rest again. After a time it became clear, and a portion of transparent liquor like water lay at the bottom. I then repeated the shaking and setting it to rest, till no additional quantity of this fluid was separated.

By trying this experiment repeatedly upon oils procured from different places, I found that some oils afforded much more mucilage than others. From some I separated a third part of mucilage; from others, a pint would not afford more than
a table

a table spoonful, and sometimes less. Whether this difference in the result was radically in the oils, or from a difference in the processes conducted by means so variable as the heat of the sun, I am not able to ascertain.

Upon trying the same experiment with nut and poppy oil, I found the same result, but in a different degree. The average quantity afforded by nut oil was, I believe, not more than a third part of the average of linseed oil; and the average of the poppy oil was not so much as a sixth. In some cases, particularly of the poppy oil, I did not obtain any.

The colour of the oil always diminished as the mucilage was abstracted; but the mucilage was always as colourless as water. It is a question I will not pretend to decide, whether the colour of these oils depends upon the presence of the mucilage, or upon any other principle which is destroyed by the action of light. I have in some instances had the oil as colourless as water.

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This decomposition of the oils, if it may be so called, is curious, as proving the existence of mucilage in them; but as it is very troublesome, may it not be advisable to prefer those which have naturally the least mucilage in their composition?

After pouring the oils from the mucilage, I put several quantities of the latter together, and found them mix without any difficulty. I mixed this mucilage with water, and found it unite with it in any proportion without becoming turbid. I laid it upon plates of metal, exposing them to dry in the sun, and before the fire, and when dry washed them with a sponge and water; but it shewed no tendency to dissolve; though, while in a liquid state, it seemed to possess all the properties of a gum.

As the processes by which I dissolved the amber and copal to make the oil varnishes, are to be found in many books, and as it will be better for artists to purchase than attempt to make those varnishes, it can scarcely be thought necessary to detail those
processes

processes here : but as I believe the methods by which I dissolved the copal in spirit of turpentine and spirit of wine, are not known, I shall now subjoin them.

To dissolve Copal in Spirit of Turpentine.

N. B. Whatever quantity is to be dissolved, should be put into a glass vessel capable of containing at least four times as much, and it should be high in proportion to its breadth.

Reduce two ounces of copal to small pieces, and put them into a proper vessel. Mix a pint of spirit of turpentine with $\frac{1}{3}$ of spirit of sal armoniac; shake them well together; put them to the copal; cork the glass, and tie it over with a string or wire, making a small hole through the cork. Set the glass in a sand heat so regulated as to make the contents boil as quickly as possible, but so gently that the bubbles may be counted as they rise from the bottom. The same heat must be kept up exactly till the solution is complete.

It

It requires the most accurate attention to succeed in this operation. After the spirits are mixed, they should be put to the copal, and the necessary degree of heat be given as soon as possible. It should likewise be kept up with the utmost regularity. If the heat abates, or if the spirits boil quicker than is directed, the solution will immediately stop, and it will afterwards be in vain to proceed with the same materials; but if properly managed, the spirit of sal ammoniac, will be seen gradually to descend from the mixture, and attack the copal which swells and dissolves, except a very small quantity which remains undissolved.

It is of much consequence that the vessel should not be opened till some time after it has been perfectly cold. It has twice happened to me, on uncorking the vessel when it was not warm enough to affect the hand, that the whole of the contents were blown with violence against the ceiling. It is likewise important that the spirit of turpentine should be of the best quality. I have

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never

never succeeded with that which is sold at the colour-shops ; but whenever I procured my spirits at Apothecaries Hall, I have dissolved the copal by the process I have described, without difficulty.

This varnish is of a rich deep colour when viewed in the bottle, but seems to give no colour to the pictures it is laid on : if left in the damp, it remains tacky, as it is called, a long time ; but if kept in a warm room, or placed in the sun, it dries as well as any other turpentine varnish ; and when dry, it appears to be as durable as any other solution of copal.

To dissolve Copal in Alcohol.

Dissolve half an ounce of camphire in a pint of alcohol ; put it in a circulating glass, and add four ounces of copal in small pieces ; set it in a sand heat, so regulated that the bubbles may be counted as they rise from the bottom ; and continue the same heat till the solution is completed.

Camphire

Camphire acts more powerfully upon copal than any substance that I have tried. If copal is finely powdered, and a small quantity of dry camphire rubbed with it in the mortar, the whole becomes in a few minutes a tough coherent mass. The process above described will dissolve more copal than the menstruum will retain when cold. The most economical method will therefore be to set the vessel which contains the solution by, for a few days; and when it is perfectly settled, pour off the clear varnish, and leave the residuum for a future operation.

This is the brightest solution of copal that I have seen: it is an excellent varnish for pictures, and may, perhaps, be found to be an improvement in fine Japan works; as the stoves used in drying those articles may drive off the camphire entirely, and leave the copal pure and colourless on the work.

N. B. Copal will dissolve in spirit of turpentine by the addition of camphire, with

the same facility, but not in the same quantity, as in alcohol.

At the time I determined to lay the preceding papers before the Society, I conceived that the quick and certain manner in which the vehicle dried, was one of its advantages: but as that circumstance has been objected to, and in some cases really is a disadvantage, I have since endeavoured to remove that objection by the following process.

Put a pint of nut or poppy oil into a large earthen vessel; make it boil gently upon a slow fire; put in by degrees two ounces of ceruse, and stir it continually till the whole is dissolved.

Have ready a pint of the copal oil varnish heated in a separate vessel; pour this by degrees into the hot oil, and stir them together till all the spirit of turpentine is dissipated; let it then be set by till cold, when it will be for use.

It is obvious that as this is a compound of the copal varnish with the least exceptionable

tionable of the drying oils, it will partake of the properties of each of its component parts. It gives less brightness and durability to colours than the varnish will, but more than oil: but as it certainly may be used in painting in the same manner as any other drying oil, and gives more brightness and durability to colours than they can derive from any other oil, it is not unreasonable to suppose that it will prove an advantageous vehicle.

I have mentioned specific quantities of the ingredients; but it is easy to see that the relative proportions may be varied according as it is required to dry faster or slower. It must be remarked too, that whenever the mixture is to be made, both the ingredients should be hot, because, if either of them is cold, the mixture becomes turbid, and a part, often the whole of the copal, is precipitated: but this inconvenience is avoided, by mixing and boiling them together, as I have directed. It must likewise be observed, that after some time a spontaneous alteration takes

place, which diminishes, and at last destroys the drying quality of this mixture; it will therefore be advisable to use it fresh, or at least not to use it after it has been made more than a month or six weeks.

The

The Society this Session having received from Mr. NICHOLSON, of Ripon in Yorkshire, a DRAWING, intended as a Specimen of the Process for producing the Lights in stained Drawings, by removing, after the Shadows are washed in, the Colour where the Lights are required, giving by this means the effect of Body Colour with greater clearness, and without any of its disadvantages ; and it appearing that Mr. NICHOLSON's Method of tinting Drawings promises to be of use in the practice of Drawing in Water-colours, and produces a more spirited effect ; the Society agreed to Mr. NICHOLSON's Proposal, and purchased from him, at the price of Twenty Guineas, the complete Process for performing the Work, as communicated in the following Paper.

Process for producing the Lights in stained Drawings, by Mr. Francis Nicholson, of Ripon, Yorkshire.

THE difficulty of preserving the lights in stained drawings with freedom and precision, is so universally felt by those who

cultivate that branch of the arts, the practice of which is every day growing more extensive, that the statement of this circumstance alone is sufficient for the introduction of the following process, by which that difficulty is removed, and by which all the effect of body colour may be obtained, without any of its inconveniences or defects. It is applicable to every subject, to the richness of foliage, of rocks, or of foreground; and in ruins, their most picturesque appendages of hanging shrubs, weeds, &c. may be expressed by it with the utmost sharpness, and with all the lightness and freedom of which body colour, or oil painting, are capable.

The principle of this process consists in covering the places where the touches of light are intended to be, with a composition not liable to be displaced by washing over it with the colour, and such as may be afterwards removed by a fluid in which the colours used in water are not soluble.

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This composition or stopping mixture is made by dissolving bees-wax in oil of turpentine, in the proportion of one ounce of wax to five ounces of the oil ; and, as near the time of using it as may be convenient, grind with the pallet-knife as much flake white, or white-lead, in oil of turpentine, as may be wanted at one time ; dilute it with the above solution until it will work freely with the pencil, and appear on the paper, when held between the eye and the light, to be opaque. It is necessary to observe this, or the first touches will not be sufficiently visible, after being washed over with the colours, to ascertain the places of the second. It is also necessary to use a frame instead of the drawing-board, or to paste the paper on the frame of the drawing-board, so as to remove the pannel ; because the first and second touches must be put on with the drawing placed between the eye and the light, as they will be most visible in that situation. On this frame paste the paper wet so as to dry firm ; when quite dry, draw the outline, and proceed as follows :

1st, With

1st, With a fine small hair pencil, and the stopping mixture, cover those places where the clear whiteness of the paper may be wanted, except in the sky: let it dry a few minutes; then wet the paper on both sides, and while it is wet wash the sky. The shadows of the clouds, distances, and general breadths of shadow, must be put in with the grey tint; and over the places of the light wash the tints of the brightest light; those will be generally yellow oker, or light red.

The light of the clouds may be preserved sharp by pressing on that part a piece of tissue-paper, previous to the washing of the sky; this, by absorbing the superfluous moisture, will prevent the colour from spreading farther than is desired. Suffer the whole to be very dry; and

2dly, Touch in with the stopping mixture the sharp and prominent parts of the brightest lights; let them dry a few minutes, then wash over them with the tints of the next degree of light.

3dly,

3dly, Stop with the mixture the second order of touches, and wash over them with the middle tints; strengthen also at the same time the breadths of shadow.

4thly, Stop with broad touches of the mixture the places of the middle tint, uniting them to the former touches, and extending them so as to graduate the middle colours into the shadow: strengthen the shadows, making them nearly as dark as they are intended to be, and let the whole be perfectly dry.

Then take oil of turpentine, and with a sponge, or hog's-hair pencil, wash over the places where the mixture has been used, rubbing it with the brush until it be dissolved: clear it away with a linen rag, and wash it with more oil of turpentine so long as any white lead appears; then let it dry.

Warm the drawing; then with a soft brush, and highly rectified spirit of wine, wash the places where the oil of turpentine has been used, to clear away the remainder of it: rub the drawing lightly on the face, but sponge it well on the back.

When

When dry, tint down the lights where it may be wanted; harmonize the colouring, and cut the shadows to effect, with still darker tints as may be necessary.

If other touches of light should afterwards be wanted in the shadowed parts, the colour may be easily removed by a pencil formed of sponge, with water sufficiently to produce them with as much strength as can be desired; then stop them with the mixture; wash the shadow over the touches, bringing it to the colour taken off; and when dry, remove the mixture with the oil of turpentine and spirit of wine.

The

The Society having this Session received two BUSTS modelled in CLAY, and two CASTS in PLASTER OF PARIS, all executed by Miss KNIGHTS, of Sticken, in Buckinghamshire, hardened by Wax in such manner that those in Clay represent Bronze, and those in Plaster, Marble, presented their GREATER SILVER PALLET to these ingenious young Ladies, from whom the following Method of thus hardening the Clay and Plaster was received; and the Busts are reserved in the Society's Collection.

S I R,

WE have taken the liberty of getting a friend to convey to you two Busts, one of a bronze, and the other of a marble colour. The former is composed of clay, and the other of Plaster of Paris: they are each wrought up to their colours by wax only.

only, and considered good likenesses of ourselves.

Our only motive in getting them presented, is to have the opinion of the Society as to what we think an improvement in producing likenesses, with a diminution of labour and expence.

We remain very respectfully,

SIR,

Your obliged humble servants,

L. and M. KNIGHT.

SAMUEL MORE, Esq.

The method of giving clay models the appearance of bronze, and hardening casts in plaster, is simply by waxing them:— which is done by making the clay model moderately hot by the fire, and then pouring melted bees-wax on it, and continuing
to

to do so till such time as the colour becomes sufficiently dark.

Cast in plaster must not be made nearly so hot as the clay models ; the wax must be of the purest sort ; and the cast must be dipped into the vessel of melted wax.